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09/535,300	03/24/2000	Alan W. Schwabacher	2003118-0001	2305

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EXAMINER

SHIBUYA, MARK LANCE

ART UNIT	PAPER NUMBER
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1639

DATE MAILED: 06/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/535,300

**Applicant(s)**

SCHWABACHER ET AL.

**Examiner**

Mark Shibuya

**Art Unit**

1639

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 February 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 53-74 is/are pending in the application.
- 4a) Of the above claim(s) 53-64 and 67-74 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 65 and 66 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>2/23/2004</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Status of the Claims*

1. Claims 53 to 74 are pending. Claims 53-64 and 67-74 have been withdrawn as not drawn to the originally elected invention. Claims 65 and 66 are rejected.

2. The following rejections were withdrawn as moot following applicant's cancellation of claims 1, 3, 4, 6-8, 10, 11, 13, 31-35, 38-46 and 49-52, (filed 2/23/2004):

a. Rejection of claims 1, 3, 4, 6-8, 10, 11, 13, 31-35, 38-46 and 49-52 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement.

b. Rejection of claims 1, 3, 4, 6-8, 10, 11, 13, 31-35, 38-46, and 49-52 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

c. Rejection of claims 1, 3, 4, 6-8, 13, 30-37 and 42-50 under 35 U.S.C. 103(a) as unpatentable over Browne et al., (*Anal. Chem.* 1996, vol. 68, 2289-2295; IDS filed 8/31/2000), and Pirrung et al., (US 5,143,854; IDS filed 8/31/2000), as set forth in the Office action mailed 9/23/2003.

d. Rejection of claims 1, 3, 4, 6-8, 10, 11 and 13 under 35 U.S.C. 103(a) as unpatentable over Browne et al. and Pirrung et al., and further in view of Pilevar, (*Anal. Chem.* 1998, 70:2031-2037; IDS filed 8/31/2000).

- e. Rejection of claims 1, 3, 4, 6-8, 13 and 30-50 under 35 U.S.C. 103(a) as being unpatentable over Browne et al. in view of Pirrung et al., and further in view of Lebl (US 5,688,696; IDS filed 8/31/2000).

***Election/Restrictions***

3. Newly submitted claims 53-64 and 67-74 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: Applicant, in the response to restriction/election requirement, filed 8/6/2001, elected Group II, drawn to an array of at least two different peptide/proteins attached to an optical fiber. However, new claims 53-64 and 67-74, filed 2/23/2004, are drawn to an array comprising an optical fiber "and a library of chemical compounds", which is an invention that is independent and distinct from the elected invention comprising peptides or proteins (see Requirement for Restriction/Election, mailed 7/5/2001). Libraries of chemical compounds differ from at least two peptides and proteins, in that they encompass compounds with different molecular structures such that their properties, uses and the synthetic methodology for making them are unrelated. Thus examination of inventions comprising libraries of chemical would require an additional, burdensome search.

4. Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 53-64 and 67-74 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

***Information Disclosure Statement***

5. The information disclosure statement filed 2/23/2004 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. A copy of the publication "All-in-One Synthesis and Evaluation" was not received. It has been placed in the application file, but the publication "All-in-One Synthesis and Evaluation" referred to therein has not been considered.

***Claim Objections***

6. Claims 65 and 66 are objected to for depending from withdrawn claims 53, 54 and 57. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

7. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claims 53-74 have been renumbered. Applicant, in the amendment filed 2/23/2004, canceled claims 1-53 and started numbering the newly added claims as claims 54-75. However, the previous claims added only to 52; *i.e.*, there was no previous claim 53 to cancel. Thus the pending claims now are claims 53-74.

***Claim Rejections - 35 USC § 112, First Paragraph***

8. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

9. Claims 65 and 66, insofar as claims 65 and 66 depend from claims 53 and 57, are rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This is a new matter rejection. This rejection is necessitated by applicant's amendments to the claims, filed 2/23/2004.

10. Claims 65 and 66, insofar as they depend from claim **53**, recites the limitation that the members of a library are synthesized "so that a larger number of products is produced than different chemical reactions are performed." There does not appear to be specific support for this limitation in the specification as originally filed. Applicant should point, with particularity, to where in the specification support for the amendment may be found.

11. Claims 65 and 66, insofar as they depend from claim **57**, recites the limitation that the members of a library are related to one another by "synthetic history" and wherein each member of a first subset is separated from each "next closest member by a first distance." There does not appear to be specific support for these limitations in

the specification as originally filed. Applicant should point, with particularity, to where in the specification support for the amendment may be found.

*Response to Arguments*

12. Applicant, in the response filed 2/23/2004, stated that newly filed claim 53 would find support for the combinatorial library, as claimed, in the specification, for example at p. 2 line 5 to page 3, line 8. However the examiner has been unable to find specific support for the limitation "so that a larger number of products is produced than different chemical reactions are performed."

13. Applicant, in the response filed 2/23/2004, stated that newly filed claim 57 would find support for a library whose members are related to one another by "synthetic history" and wherein each member of a first subset is separated from each "next closest member by a first distance", as claimed, in the parent application 09/253,153, e.g., p. 4, lines 14-18; p. 7, line 26-p. 8, line 17; p. 9, line 25-p. 11, line 3; p. 18, line 1-p. 25, line 6, and in the instant application, e.g., p. 4, lines 5-7 and p. 14, lines 3-4. However, the examiner has been unable to find specific support for these limitations regarding synthetic history and next closest member by a first distance.

14. Applicant's arguments regarding support for an array wrapped about a geometric substrate, as described in parent application 09/253,153, are persuasive.

***Claim Rejections - 35 USC § 112, Second Paragraph***

15. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 1639

16. Claims 65 and 66, insofar as claims 65 and 66 depend from claims 53 and 57, are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. These rejections are necessitated by applicant's amendments to the claims, filed 2/23/2004.

17. Claims 65 and 66, insofar as they depend from claim 53, recite the language "can be generated" which renders the claims vague and indefinite, because it is unclear whether the members of a combinatorial library are generated via the method steps as recited in the claimed invention or by some other way.

18. Claims 66 and 67, insofar as they depend from claim 57, recite the language "synthetic history" which renders the claims vague and indefinite, because the term is not defined by the claim, the specification does not define the term, and one of skill in the art would not be reasonably apprised of the metes and bounds of the invention.

### ***Claim Rejections - 35 USC § 102***

19. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.



Art Unit: 1639

20. Claims 65 and 66, insofar as they depend from claims 53 and 75, are rejected under 35 U.S.C. § 102(e) as being anticipated by Stimpson (US 6,037,186).

Claims 65 and 66 are drawn to an array comprising an optical fiber and a library or collection of chemical compounds linearly arranged the optical fiber, wherein said compounds are peptides or proteins, wherein the optical fibers are wrapped about a geometric shape.

Stimpson at col. 1, lines 41-51 and at col. 7, lines 61-65, disclose combinatorial peptide compounds and combinatorial libraries. These compounds and libraries form arrays of protein compounds linearly arrange in two dimensional arrays on microporous materials that are glass or other materials, as disclosed at col. 3, lines 35-col. 4, line 45, which are then rolled into rods or bundles (see, e.g., Figures 1A and 2A-2E) that encompass optical fibers because they are capable of transmitting or guiding light. These rod elements may be wrapped on a spool, as disclosed at col. 4, lines 59-66.

### ***Claim Rejections - 35 USC § 103***

21. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

22. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. § 103(a), the examiner presumes that the subject matter of

Art Unit: 1639

the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

23. Claims 65 and 66, insofar as they depend from claim 53, are rejected under 35 U.S.C. 103(a) as being unpatentable over Browne et al (*Anal. Chem.* 1996, vol. 68, 2289-2295; IDS filed 8/31/2000) and Pirrung et al. (US 5,143,854; IDS filed 8/31/2000). The instant rejection is necessitated by applicant's amendments to the claims, filed 2/23/2004.

24. Claims 65 and 66 are drawn to an array comprising an optical fiber and a library of chemical compounds attached to the optical fiber in a linear arrangement, wherein the members of the library are generated via chemical reactions and wherein the chemical compounds are proteins, (as recited in claim 65), or peptides, (as recited in claim 66).

25. **Browne** (*Anal. Chem.* 1996), as stated in the previous Office action, mailed 9/23/2003, teaches an "intrinsic sol-gel clad fiber optic sensor" (see Title and Abstract). Browne teach various sensor molecule that are linearly arranged on an optical fiber (see Figures 1 and 2). Browne lists "biological analytes" and specifically fluorescently

Art Unit: 1639

labeled antibodies that can be used in a fiber-optic chemical sensor (p. 2289, 2<sup>nd</sup> column.)

26. Browne does not teach using protein or peptide libraries for members of the array that are attached to the optical fiber.

27. **Pirrung** (US 5,143,854), as stated in the previous Office action, mailed 9/23/2003, teaches the creation of arrays (column 1, line 28) and the use of peptides and proteins as the materials of the array (e.g., column 1, line 32 through column 2, line 14 and column 28, lines 5-11). Pirrung specifically teaches that arrays can be synthesized using optical fibers as a support (column 14, lines 55-59). Furthermore, Pirrung teaches the sequential synthesis of peptides or proteins for all possible sequences for a monomer set of size  $n$ , at col. 24, line 1 to col. 25, line 40, which absent evidence to the contrary, is tantamount to synthesizing a library of peptides or proteins.

28. It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention to use the fibers of Browne as a support for an array of peptides or proteins based on the teachings of Pirrung directed toward the use of optical fibers as supports for their arrays of proteins or peptides libraries.

29. One would have been motivated to do so because Browne et al. teach that intrinsic chemical sensors having agents that are "macroscopically distributed along a single optical fiber" are suited for certain specific sensing applications (see Browne et al., p. 2292) and Pirrung teach peptide or protein libraries col. 24, line 1 to col. 25, line

Art Unit: 1639

40) for screening biological activity (see Pirrung et al. at column 3, lines 35-61) on optical fiber.

30. Additionally, the examiner respectfully notes that claims 65 and 66, insofar as they depend from claims 53 and 57, are product-by-process claims and that any array of peptides or proteins meeting the product limitations reads on such claims. The process by which the claimed array is synthesized does not appear to lend patentable weight to the claimed invention. One of ordinary skill would expect the array to be the same regardless of the manner of synthesis. Moreover, process limitations do not further limit the product (array).

31. Claims 65 and 66, insofar as they depend from claim 57, are rejected under 35 U.S.C. 103(a) as being unpatentable over Browne et al (*Anal. Chem.* 1996; IDS filed 8/31/2000) and Pirrung et al. (US 5,143,854; IDS filed 8/31/2000), as set forth above, and further in view of Pilevar et al. (*Anal. Chem.* 1998, 70:2031-2037; IDS filed 8/31/2000). The instant rejection is necessitated by applicant's amendments to the claims, filed 2/23/2004.

32. Claims 65 and 66 are drawn to an array comprising an optical fiber and a library of chemical compounds *covalently* attached to the optical fiber in a linear arrangement, wherein the members of the library are generated via chemical reactions and wherein the chemical compounds are proteins, (as recited in claim 65), or peptides, as recited in claim 66).

33. **Browne** (*Anal. Chem.* 1996), as stated in the previous Office action, mailed 9/23/2003, teaches an “intrinsic sol-gel clad fiber optic sensor” (see Title and Abstract). Browne teach various sensor molecule that are linearly arranged on an optical fiber (see Figures 1 and 2). Browne lists “biological analytes” and specifically fluorescently labeled antibodies that can be used in a fiber-optic chemical sensor (p. 2289, 2<sup>nd</sup> column.)
34. **Pirrung** (US 5,143,854), as stated in the previous Office action, mailed 9/23/2003, teaches the creation of arrays (column 1, line 28) and the use of peptides and proteins as the materials of the array (e.g., column 1, line 32 through column 2, line 14 and column 28, lines 5-11). Pirrung specifically teaches that arrays can be synthesized using optical fibers as a support (column 14, lines 55-59). Furthermore, Pirrung teaches the sequential synthesis of peptides or proteins for all possible sequences for a monomer set of size n, at col. 24, line 1 to col. 25, line 40, which absent evidence to the contrary, is tantamount to synthesizing a library of peptides or proteins.
35. Neither of Browne or Pirrung teach Browne teach using protein or peptide libraries for members of the array that are *covalently* attached to the optical fiber.
36. **Pilevar**, at p. 2033, para 4-6, teach the covalent attachment of biological molecules directly to an optical fiber.
37. It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention to use the fibers of Browne as a support for a linear arrangement of peptides or proteins based on the teachings of Pirrung, directed toward the use of

optical fibers as supports for their arrays of proteins or peptides libraries, and wherein the peptide or protein libraries are covalently attached to the optical fiber.

38. One would have been motivated to do so because Browne et al. teach that intrinsic chemical sensors having agents that are “macroscopically distributed along a single optical fiber” are suited for certain specific sensing applications (see Browne et al., p. 2292); Pirrung teach peptide or protein libraries for screening biological activity (see Pirrung et al. at column 3, lines 35-61) on optical fiber. One would have been motivated to covalently attach the biological molecules to the optical fiber, instead of attaching biological molecules to a cladding coating the optical fiber, in order to gain maximum access to the evanescent field and to enhance detection sensitivity as taught by Pilevar at p. 2031, para 2 and p. 2033, para 4-6.

39. Additionally, the examiner respectfully notes that claims 65 and 66, insofar as they depend from claims 53 and 57, are product-by-process claims and that any array of peptides or proteins meeting the product limitations reads on such claims. The process by which the claimed array is synthesized does not appear to lend patentable weight to the claimed invention. One of ordinary skill would expect the array to be the same regardless of the manner of synthesis. Moreover, process limitations do not further limit the product (array).

40. Claims 65 and 66, insofar as they depend from claim 54, are rejected under 35 U.S.C. 103(a) as being unpatentable over **Browne** et al (*Anal. Chem.* 1996, vol. 68, 2289-2295; IDS filed 8/31/2000) and **Pirrung** et al. (US 5,143,854; IDS filed 8/31/2000);

Art Unit: 1639

and further in view of **Myers** et al. (US 4,848,687). The instant rejection is necessitated by applicant's amendments to the claims, filed 2/23/2004.

41. Claims 65 and 66 are drawn to an array comprising an optical fiber and a collection of chemical compounds attached to the optical fiber in a linear arrangement, wherein the chemical compounds are proteins, (as recited in claim 65), or peptides, as recited in claim 66), and wherein the optical fiber is wrapped about a geometric substrate.

42. **Browne** (*Anal. Chem.* 1996), as stated in the previous Office action, mailed 9/23/2003, teaches an "intrinsic sol-gel clad fiber optic sensor" (see Title and Abstract). Browne teach various sensor molecule that are linearly arranged on an optical fiber (see Figures 1 and 2). Browne lists "biological analytes" and specifically fluorescently labeled antibodies that can be used in a fiber-optic chemical sensor (p. 2289, 2<sup>nd</sup> column.)

43. **Pirrung** (US 5,143,854), as stated in the previous Office action, mailed 9/23/2003, teaches the creation of arrays (column 1, line 28) and the use of peptides and proteins as the materials of the array (e.g., column 1, line 32 through column 2, line 14 and column 28, lines 5-11). Pirrung specifically teaches that arrays can be synthesized using optical fibers as a support (column 14, lines 55-59). Furthermore, Pirrung teaches the sequential synthesis of peptides or proteins for all possible sequences for a monomer set of size n, at col. 24, line 1 to col. 25, line 40, which absent evidence to the contrary, is tantamount to synthesizing a library of peptides or proteins.

Art Unit: 1639

44. Neither of Browne or Pirrung teach Browne teach wrapping about a geometric substrate, an optical fiber to which protein or peptide compounds are attached.

45. **Myers et al.** (US 4,848,687) at the abstract, teaches winding optical fibers on spools for storage.

46. It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention to use the fibers of Browne as a support for a linear arrangement of peptides or proteins based on the teachings of Pirrung directed toward the use of optical fibers as supports for their arrays of proteins or peptides; and to wrap about a geometric substrate, an optical fiber to which protein or peptide compounds are attached, as taught by Myers.

47. One would have been motivated to do so because Browne et al. teach that intrinsic chemical sensors having agents that are “macroscopically distributed along a single optical fiber” are suited for certain specific sensing applications (see Browne et al., p. 2292) and Pirrung teach peptide or protein libraries for screening biological activity (see Pirrung et al. at column 3, lines 35-61). One would have been motivated to wrap the optical fibers about a geometric substrate, such as a spool, in order to store the optical fibers to which the peptides or proteins are attached.

#### *Response to Arguments*

48. Applicant, in the response filed 2/23/2004, argues that: (1) Browne does not teach dyes that are *covalently* attached the optical fiber; (2) Browne does not teach dyes that are members of a combinatorial library or a library that shares periodicity of a reaction product; Browne does not mention a geometric substrate, its desirability or use.



Art Unit: 1639

Applicant argues that although Pirrung teaches peptides or proteins attached to an array on an optical fiber, Pirrung does not teach the peptides or proteins are members of a combinatorial library or that a geometric substrate would be useful or desirable.

49. Applicant's arguments filed 2/23/2004 have been fully considered but they are not persuasive. Claims 65 and 66, insofar as they depend from claim 53, do not recite limitations drawn to covalent binding to the optical fiber or a geometric substrate, so that applicant argues limitations not found in the claims. Furthermore, contrary to applicant's arguments, Pirrung at column 3, lines 35-61, teaches the synthesis of peptide or protein libraries. Thus Pirrung, in combination with Browne, who discloses the immobilization of biological analytes, such as antibodies, teaches peptide or protein libraries that are attached to an optical fiber in a linear arrangement.

50. Claims 65 and 66, insofar as they depend from claim 57, do not recite limitations drawn to a geometric substrate, so that applicant argues limitations not found in the claims. Pilevar teaches covalent attachment to optical fibers. Myers teaches a geometric substrate about which optical fibers are wrapped.

51. Applicant, in the arguments filed 2/23/2004, asserts that the commentaries by Czarnik (IDS filed 2/23/2004) and Terrett (IDS filed 2/23/2004), demonstrate that the scientific community has embraced the inventive arrays as truly novel and distinct. While these commentaries support applicant's assertion, the Czarnik and Terrett commentaries are not conclusive because the relationship of the chemistry procedures or techniques commented upon and the claimed invention is not clear. For example, Czarnik and Terrett do not appear to discuss arrays attached to optical fibers.

***Conclusion***

52. No claims are allowed.

53. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

54. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Shibuya whose telephone number is (571) 272-0806. The examiner can normally be reached on M-F, 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Wang can be reached on (571) 272-0811. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mark Shibuya  
Examiner  
Art Unit 1639

ms



PADMASHRI PONNALURI  
PRIMARY EXAMINER